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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,303	02/27/2004	Takashi Tomiyama	03500.017919	4362

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EXAMINER

LAMBELET, LAWRENCE EMILE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/787,303

Applicant(s)

TOMIYAMA ET AL.

Examiner

Lawrence Lambelet

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasame et al (U.S. Patent 5,204,034), and further in view of Cahill et al (U.S. Patent 3,387,071).

Sasame et al, hereafter "Sasame", discloses a method of producing a cleaning blade, as required by claim 1. Sasame teaches dispersing particles of a second material in a liquid rubber matrix for the purpose of forming a coated surface on a cleaning blade at lines 6-46 in column 3. Sasame teaches that the rubber can be urethane at lines 28-33 in column 1 and lines 1-5 in column 4. The dispersion can be called impregnation, in the general sense of the term. The coated surface is formed by vulcanization, which is a curing process.

Sasame does not teach using an isocyanate compound in the formation of the surface, or removing excess compound with warm or hot air having a temperature

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sufficient to render the compound flowable, as required by claim 1. Sasame further does not teach removing excess isocyanate compound with a solvent, as required by claim 2, or immersing the blade in an isocyanate compound bath, as required by claim 3.

Cahill et al, hereafter "Cahill", teaches forming a urethane object, in this case a fiber, by using an excess of an isocyanate compound and removing this excess with hot air in claims 4 and 5. Herein Cahill refers to excess extender, making reference to the reaction functionality of the isocyanate. Using a temperature above the melting point of the isocyanate compound, thereby maintaining flowability for the purpose of sheeting the fuild, would have been obvious as a matter of choice to one skilled in the art. Also, immersing the blade in an isocyanate bath, thereby to apply isocyanate to the urethane material, would similarly have been obvious as a matter of choice to one skilled in the art. Lastly, it would have been obvious as a matter of choice for one skilled in the art to follow up the hot air doctoring with a solvent to insure the complete removal of isocyanate from the surface.

Sasame and Cahill are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Sasame the removal process of isocyanate, as taught by Cahill, and would have been motivated to do so to avoid removal in a solid phase, which might have left irregularities on the surface.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasame in view of Cahill, as applied to claims 1-3 above, and further in view of Limerkens et al (U.S. Patent 5,840,782).

Sasame and Cahill teach the method of claims 1-3, as discussed above.

Sasame and Cahill do not teach urethane water content of 1% by weight or less, as required by claim 4.

Limerkens et al, hereafter "Limerkens", teaches water content of a polyisocyanate/polyol system (urethane) at 0.3-1.2% by weight in claim 14 and at lines 57-67 in column 2.

Sasame, Cahill, and Limerkens are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Sasame and Cahill the water content of Limerkens, and would have been motivated to do so to slow or stop additional reaction.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasame in view of Cahill, as applied to claims 1-3 above, and further in view of Suzuki et al (U.S. Patent 4,980,108).

Sasame and Cahill teach the method of claims 1-3, as discussed above.

Sasame and Cahill do not teach deactivating excess unreacted isocyanate with an active hydrogen compound which does not cause further cross-linking, as required by claim 5.

Suzuki et al, hereafter "Suzuki", neutralizes a urethane containing unreacted isocyanate with aqueous ammonia at lines 50-65 in column 6.

Sasame, Cahill, and Suzuki are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Sasame and Cahill the neutralization of excess isocyanate, as taught by Suzuki, and would have been motivated to do so to "quench" the reaction.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Lambelet whose telephone number is 571-272-1713. The examiner can normally be reached on 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LEL

  
**CHRISTINA JOHNSON**  
**PRIMARY EXAMINER**  
7/14/06